



NER Road Safety Improvement Program



Above: The Northeast Region (NER) had the highest severe crash rate and the highest crash rate of all NPS regions. Compared to average crash rates in corresponding states, NER park crash rates exceed those of every state except one.

Project Description. The purpose of this project is to address high traffic safety needs for the Northeast Region (NER) through in-depth traffic safety studies. The NER intends to develop a Transportation Safety Management System (TSMS) to identify the extent of safety issues in the region and identify parks with the highest number of severe and total crashes. Since 2009, many parks and transportation modes have been added to the list to study to provide a proactive set of safety initiatives.

The primary goal of the TSMS is to reduce severe and total crashes for visitors and staff by 20 percent by implementing proposed safety projects that are sensitive to park stakeholder needs, resources, and the context of parks in the NER based on national best practices. The NER TSMS is a multi-year program for more than 35 parks that includes approximately 140 projects, not including the traffic sign retroreflectivity effort for all 87 parks in 14 states in the region.

Project Background. Based on a servicewide traffic safety study of all National Park Service (NPS) regions conducted in 2009, the NER had a reported 9,380 total crashes (about 9 percent servicewide) and 1,650 severe crashes from 1990 to 2005. For the NER, these crashes cost an estimated \$290 million in losses to the public in 2009 dollars.

For the parks in the NER that have traffic volume data, crash rates were estimated by comparing number of crashes and traffic volume data. Of the five NPS regions included in the NPS servicewide study the NER had the highest severe crash rate of 52.9

severe crashes per 100 million vehicle miles traveled (100MVMT) and the highest crash rate with a rate of 267.3 crashes per 100MVMT of all NPS regions. When compared to average crash rates in corresponding states, NER park crash rates exceed those of every state except one.

In recognition of the current national emphasis among federal and state agencies toward improving traffic safety and saving lives, coupled with the high NER safety needs and high crash rates, the NPS NER with support of the Federal Highway Administration (FHWA), Federal Lands Highway (FLH) has initiated a joint effort toward developing a TSMS and has included as a core asset management program the recommendations in the NER Long-Range Transportation Plan (LRTP).

Current Status. The NER has moved aggressively forward to develop a comprehensive program to address safety needs based on a data-driven process that has identified safety concerns. This process included identification of high-crash routes, other “hot spots” within a park, safety issues related to alternative transportation systems (ATs) for 25 parks, a pilot safety study of a multi-use bicycle-pedestrian trail, and a region-wide safety program to upgrade and replace signs that are not visible at night or not located in compliance with FHWA requirements.

For all of the above study elements, field visits in the parks were conducted to confirm safety issues and a final list of safety countermeasures was recommended for funding as part of the TSMS.

Mega-Project* Profile: Road Safety Improvement for the Northeast Region

Estimated cost: \$28M
(preliminary)

Percentage of Northeast
Region (NER) FLTP Annual
Allotment: 140%

Percentage of NPS FLTP
Annual Allotment: 15%



STOP sign with poor retro-reflectivity in Fredericksburg and Spotsylvania National Military Park



STOP sign with good retro-reflectivity in Fredericksburg and Spotsylvania National Military Park

* Mega Projects: The NPS transportation system is supported, in part, by funds from the Federal Lands Transportation Program (FLTP). Currently, the NPS is authorized an annual budget of \$268 million from the FLTP. These funds are apportioned by formula among the seven NPS Regions. Most of these funds are used for "transportation asset management" – that is, to pay for the work required to keep existing assets in good condition. There are some projects, such as a major bridge repair or ship replacement, that require a much larger amount of funding than is available on an annual basis to a Region. These we call "Mega Projects." The NPS is pursuing strategies to fund these projects.

This program is multimodal in nature as it includes all roadway users: motor vehicles, bicycles, pedestrians, ATS, and off-roadway multi-use trails. Safety countermeasures have been formulated into a prioritized and phased strategy.

It is estimated that if all of the safety projects are implemented, the goal of reducing severe and total crashes would be achieved. If this effort were funded comprehensively in one year, then all of the safety benefits could be realized immediately and a truly integrated program would be realized.

Project Costs. The estimated total for all of the NER safety improvements is \$27.5 million. This estimate includes:

- \$18 million for the 12 parks studied with the highest crash levels and hot spot improvements;
- \$3.5 million for the region-wide program to upgrade and replace signs at 87 parks;
- \$1.5 million for ATS safety efforts for 25 parks;
- \$3.5 million for safety improvements in 25 parks with programmed paving projects, and
- \$1 million for multi-use trail improvements.

As many of the safety studies are still under way, it is not yet possible to completely assess all of the predicted safety benefits in terms of severe and total crashes reduced. Preliminary estimates based on the parks studied with the highest crash statistics indicates that improvements identified for those projects in the FY2013-to-FY2018 program are estimated to reduce severe crashes by at least 16 percent and total crashes by at least 11 percent.

For the 17 routes with the highest number of crashes and the hotspots in the NER, proposed improvements could potentially reduce the number of severe crashes by 25 percent per year, and total crashes by 18 percent per year.



Head-on vehicle collision in a national park.



The Island Explorer, an alternative transportation system (ATS) in Acadia National Park (NPS photo)



National Park Service sobriety check point